AMENDMENTS TO CLAIMS

1.   (Currently Amended) A~~n~~ packet-forwarding apparatus ~~associated with~~ for use in a network comprising network devices, the apparatus comprising,

a storage for storing an address table having a number of entries comprising data link layer addresses for the network devices;

an input to receive a first frame in a first frame format, the first frame format comprising a first data link layer header,

wherein ~~from a first node of the network,~~ the first frame format represents ~~identifying~~ a first ~~portion~~ tier of data link layer addresses in the network such that the network has a hierarchy achieved through tiered data link layer addressing; ~~and~~

a framing mechanism to encapsulate ~~add another data link layer header to~~ the first frame ~~in the first format~~ with a second data link layer header to form a second frame format, the second frame format representing a second tier of data link layer addresses in the network hierarchy ~~to form a frame in a second format, the second frame format identifying a second portion of the network~~;

an output to ~~wherein the apparatus~~ forwards the frame in the second frame format toward a destination electronic device; and ~~the destination identified in the added data link layer header using a layer two communications protocol.~~

a processor for updating the address table, wherein the number of entries in the address table increases linearly for each network device with a data link layer address that is associated with the second tier of the network hierarchy added to the network.

2-3.   (Canceled)

4.   (Currently Amended) The apparatus of Claim 1, wherein the framing mechanism adds ~~another~~ a trailer to the first frame ~~in the first format~~ to form the second frame ~~in the second format~~.

5-6   (Canceled)

7.   (Currently Amended) The apparatus of Claim 1, wherein the apparatus comprises is a switch.

8-22.   (Canceled)

23.   (Currently Amended) A device readable medium holding device readable instructions for performing a method in an electronic device associated with for use in a network comprising network devices, the electronic device storing an address table having a number of entries comprising data link layer addresses for the network devices, the method comprising the steps of,

        parsing a portion of a first frame in a first frame format received on an input of the electronic device to identify a destination address of the frame, the first frame format having a first data link layer source address and a first data link layer destination address, wherein the first frame format represents a first tier of data link layer addresses in the network such that the network has a hierarchy achieved through tiered data link layer addressing;

        formatting the frame in the first frame format into a second frame format in the electronic device, wherein the second frame format represents a second tier of data link layer addresses in the network hierarchy, the second frame format having a second data link layer source address and a second data link layer destination address; and

        forwarding the frame in the second frame format toward a destination electronic device; and the second data link layer destination address as part of a layer 2 data stream.

        updating the address table, wherein the number of entries in the address table increases linearly for each network device with a data link layer address that is associated with the second tier of the network hierarchy added to the network.

24-26. (Canceled)

27.   (New) The medium of Claim 23, wherein the step of formatting comprises the step of appending a trailer to the frame in the first frame format.

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28.   (New) The medium of Claim 23, wherein the step of formatting comprises the step of encapsulating the frame in the first frame format to format the frame into the second frame format.

29.   (New) The medium of Claim 23, wherein the first frame format includes a first MAC source address and a first MAC destination address.

30.   (New) The medium of Claim 23, wherein the second frame format includes a second MAC source address and a second MAC destination address.

31.   (New) The medium of Claim 23 further comprising the step of, adding a label to the frame in the second frame format.

32.   (New) The medium of Claim 23 further comprising the steps of,

        receiving one or more of the frames in the second frame format from another electronic device associated with the network; and

        decapsulating one of the received frames in the second frame format to return the received frame to the first frame format.

33.   (New) The medium of Claim 32 further comprising the step of, forwarding the first frame in the first format to the destination address identified in the destination address field of the frame in the first frame format.

34.   (New) A method performed in an electronic device for use in a network comprising network devices, the electronic device storing an address table having a number of entries comprising data link layer addresses for the network devices, the method comprising the steps of,

        parsing a portion of a first frame in a first frame format received on an input of the electronic device to identify a destination address of the frame, the first frame format having a first data link layer source address and a first data link layer destination address, wherein the first frame format represents a first tier of data link layer addresses in the network such that the network has a hierarchy achieved through tiered data link layer addressing;

formatting the frame in the first frame format into a second frame format in the electronic device, wherein the second frame format represents a second tier of data link layer addresses in the network hierarchy, the second frame format having a second data link layer source address and a second data link layer destination address;

forwarding the frame in the second frame format toward a destination electronic device; and

updating the address table, wherein the number of entries in the address table increases linearly for each network device with a data link layer address that is associated with the second tier of the network hierarchy added to the network.

35.   (New) The method of Claim 34, wherein the step of formatting comprises the step of appending a trailer to the frame in the first frame format.

36.   (New) The method of Claim 34, wherein the step of formatting comprises the step of encapsulating the frame in the first frame format to format the frame into the second frame format.

37.   (New) The method of Claim 34, wherein the first frame format includes a first MAC source address and a first MAC destination address.

38.   (New) The method of Claim 34, wherein the second frame format includes a second MAC source address and a second MAC destination address.

39.   (New) The method of Claim 34 further comprising the step of, adding a label to the frame in the second format.

40.   (New) The method of Claim 34 further comprising the steps of,

receiving one or more of the frames in the second frame format from another electronic device associated with the network; and

decapsulating one of the received frames in the second frame format to return the received frame to the first frame format.

41.   (New) The method of Claim 40 further comprising the step of, forwarding the frame in the first format to the destination address identified in the destination address field of the frame in the first frame format.

42.   (New) The apparatus of claim 1, wherein the output forwards the frame in the second frame format based on a destination address from the first frame format.

43.   (New) The medium of claim 23, wherein the step of forwarding the frame in the second frame format is performed based on a destination address from the first frame format.

44.   (New) The method of claim 34, wherein he step of forwarding the frame in the second frame format is performed based on a destination address from the first frame format.

45.   (New) The apparatus of claim 1, wherein the framing mechanism encapsulates the first frame independent of the location of the apparatus in the network hierarchy

46.   (New) The medium of claim 23, wherein the step of formatting the frame in the first frame format into a second frame format is performed independent of the location of the electronic device in the network hierarchy.

47.   (New) The method of claim 34, wherein the step of formatting the frame in the first frame format into a second frame format is performed independent of the location of the electronic device in the network hierarchy.